



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,187	08/28/2001	Larry Kim	JAM-02102/29	5984

7590 11/26/2003
Gifford, Krass, Groh
Suite 400
280 N. Old Woodward Ave.
Birmingham, MI 48009

EXAMINER

NGUYEN, LINH V

ART UNIT PAPER NUMBER

2819

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,187

Applicant(s)

KIRN, LARRY

Examiner

Linh V Nguyen

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Response to RCE

1. This office action is in response to applicant's RCE received on 11/07/03. are pending on this application. Claims 1 – 6 are pending on this application.

Drawings

2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Response to Arguments

3. Applicant's arguments filed 11/07/03 with respect to claims 1 and 4 have been fully considered but they are not persuasive because Fig. 8A, 10 of Adrian clearly discloses a switching amplifier of the type wherein one or more references are coupled to a load (32, 60) through gated switches controlled by a pulse-width modulated input signal (24, 52), the improvement comprising: adding a minimum pulse width to a pair of the switching devices, one on either side of the load (See Fig. 3C and Fig. 6A, 6B) to null the common-mode output presented to the load (Col. 3 lines 21 – 27), wherein each pair of switching devices is powered by a common reference (Fig. 10 (56)).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2819

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Adrian et al. U.S. patent No. 5,617,058.

Regarding to claim Fig. 8A, 10 of Adrian discloses a switching amplifier of the type wherein one or more references are coupled to a load (32, 60) through gated switches controlled by a pulse-width modulated input signal (24, 52), the improvement comprising: adding a minimum pulse width to a pair of the switching devices, one on either side of the load (See Fig. 3C and Fig. 6A, 6B) to null the common-mode output presented to the load (Col. 3 lines 21 – 27), wherein each pair of switching devices is powered by a common reference (Fig. 10 (56)).

Regarding to claim 3, wherein minimum pulse width is added during the pulse-width modulation of the input signal (Fig. 8A, Col. 8 lines 2 – 20, also see fig. 5 and 6).

Regarding to claim 4, Fig. 8A, and 10 of Adrian et al. disclose an enhanced performance switching amplifier coupling an input signal to a load, comprising: at least one electrically controlled switch coupled to each side of the load powered by a common reference; and a waveform generator (24, 52) operative to perform the following functions: a) control the switches in accordance with the input signal, and b) adding a minimum pulse width to both electrically controlled switches to null common-mode output presented to the load (Col. 3 lines 21 – 27).

Regarding to claim 6, wherein minimum pulse width is added by the pulse-width modulator (Fig. 8A, Col. 8 lines 2 – 20, See fig. 5 and 6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Adrian et al. in view of Applicant's Admitted Prior Art (AAPA).

Adrian et al. as applied to claim 1 – 4 above disclose every aspect of applicant's claimed invention except for wherein the switches are arranged as differential pairs on either side of the load. However that technique is a well-known and conventional art, as Fig. 1 Prior Art of applicant application has indicated. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the switches amplifier of Adrian et al. as differential pairs switches amplifier taught by Fig. 1 of AAPA, because it is well-known and conventional (Also see Kirn US5610553 for differential arranged pairs switches).

Conclusion

8. This is a continuation of applicant's earlier Application No. 09941187. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL**

Art Unit: 2819

even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (703) 305-1934. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703-872-9306) for regular communications and (703-872-9306) for After Final communications.

Art Unit: 2819

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

LVN

November 23, 2003


Michael Tokar
Supervisory Patent Examiner
Technology Center 2600